

VARIATION IN *ERIGERON CHIANGII* (ASTERACEAE: ASTEREAEE), WITH
A NEW VARIETY

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ABSTRACT

Erigeron chiangii var. *lamprocaulis*, var. nov., comprises a group of populations with linear leaves and the stems completely glabrous below the peduncular portions. *Erigeron chiangii* (including the new and typical variety) is restricted to Coahuila and adjacent Nuevo León, México; a distribution map of both taxa is provided. *Erigeron scoparioides*, the sister species of *E. chiangii*, is endemic to Tamaulipas.

KEY WORDS: *Erigeron*, Asteraceae, Astereae, México

In a paper formally describing *Erigeron chiangii* Nesom (Nesom 1979), I noted that several collections of atypically linear leaved plants primarily from the northern portion of its range could be distinguished from the rest of the species. After the accumulation of additional collections (TEX), reexamination of most of the original set of specimens of *E. chiangii*, and observations of populations in the field, it is apparent that two taxa can be distinguished. The difference between them is primarily in vestiture and leaf shape, and although it is not clear that they intergrade, the relationship between them is so close that they are considered here as varieties of a single species.

Erigeron chiangii Nesom var. *lamprocaulis* Nesom, var. nov. TYPE: MEXICO. Coahuila: Mpio. Melchior Múquiz, ca. 130 road km NW of Múquiz along Coahuila Hwy 2-A (Múquiz-Boquillas), then into Sierra La Encantada; bottom of deep, N-S trending canyon on SW side of La Encantada basin, Sierra Buenavista of the Sierra La Encantada, on SE side of road going up into mining area of the sierra; 102° 30', 28° 34'; ca. 1650 m, 3 Jun 1992, G. Nesom 7408 with M. Mayfield (HOLOTYPE: TEX; Isotypes: ANSM, ARIZ, ASU, CAS, CHAPA, COLO, ENCB, F, GH, MEXU, MO, NY, OBI, PATZ, RM, S, SRSC, UAT, UC, UNM, US).

Differt a *Erigeronte chiangii* Nesom typicus caulibus omnino glabris et foliis lineari-filiformibus.

Additional collections examined: MEXICO. COAHUILA. *Sierra del Carmen*: higher elevations in the Sierra Jardín, 1 Sep 1966, *Flyr 1210* (SMU); Mina El Popo, ca. 2 km S of Cañon El Diablo, 29 Jul 1973, *Johnston et al. 11922* (LL); canyon descending E from high pass N of Sierra Jardín, 6 mi E of Rancho El Jardín, 23 May 1968, *Powell et al. 1602* - voucher for chromosome count of $n=18$ (TEX). *Serranias del Burro*: ca. 10 km SW of R. San Miguel at Ejido Santa Eulalia in Cañon de los Burros, NE side of Serranias del Burro, 2 Jun 1972, *Chiang et al. 7519C* (LL); ca. 1 mi N of "La Laguna," Cañon del Mulato, 8 Sep 1963, *Gould 10596* (TAES). *Sierra Santa Rosa*: Rancho Agua Dulce, E slope of the Sierra de San Manuel, 30 Jun 1936, *Wynd & Mueller 387* (MO). *Sierra de la Encantada*: ca. 140 road km NW of Múquiz, Cuesta del Plomo area, ca. 6 road km S along well-maintained road originating just SE of Coahuila Hwy 2-A (Múquiz-Boquillas) crest at Cuesta del Plomo, 102° 29' 30", 28° 40' 30", area of scattered pine-oak woodlands with *Yucca* and *Dasyliirion*; ca. 1820 m, 4 Jun 1992, *G. Nesom 7461* with M. Mayfield (ANSM,MEXU,TEX). *Sierra de la Gavia*: Cañon de la Gavia, S of Rancho de la Gavia, 2-3 Aug 1973, *Johnston et al. 12035B* (LL). NUEVO LEON. Mpio. Villaldama, Sierra Gomas in Canyon El Alamo: northern exposed riparian community of *Quercus-Ostrya-Acer* with *Tilia*, *Cornus*, *Carya*, and *Abies* on higher slopes, limestone derived soil, 1100-1400 m, 15 Aug 1988, *Patterson 6694* (TEX) and 1850-2150 m, 15 Aug 1988, *Patterson 6749* (TEX).

The two varieties of *Erigeron chiangii* are distinguished by the following contrasts:

- a. Stems minutely glandular near the heads, otherwise glabrous; basal leaves deciduous by flowering, cauline leaves all linear, 2-6 cm long, 0.5(-1.0) mm wide, at least the upper cauline leaves with blades glabrous except for the sparsely spreading ciliate margins; 750-1820 m; May-Aug.
..... var. *lamprocaulis*
- a. Stems glandular from top to base, at least the basal half also sparsely to moderately hirsute-pilose with stiff to loose nonglandular hairs, rarely with only nonglandular hairs from base to tip; basal leaves often persistent, the cauline oblanceolate on lower half of stem, (1-)2-4 cm long, 1-4 mm wide, linear-lanceolate above, the blades moderately hirsute-pilose and usually markedly glandular as well; 1300-2500 m; (Mar-)Apr-Sep (-Oct). var. *chiangii*

The two varieties differ in several, apparently genetically unrelated, morphological features, but the most consistent difference is in vestiture. While plants of var. *lamprocaulis* can always be distinguished by its lack of stem hairs,



Map 1. Distribution of the varieties of *Erigeron chiangii*.

considerable variation in vestiture exists within var. *chiangii*, particularly on the stems, where the degree of glandularity and the density of nonglandular hairs are variable. The stem surfaces of both species are shiny, but those of var. *lamprocaulis* often appear more so because of their lack of vestiture.

Where the geographic ranges of the two taxa are known to overlap closely (in the Sierra de la Encantada; Map 1), var. *chiangii* occurs in drier, more exposed habitats (i.e., cracks, crevices, and ledges of rock outcrops and in shallow, stony soil); var. *lamprocaulis* in the same area grows in deep to shallow soil in considerably more protected sites, commonly at least partially shaded ones.

B.L. Turner in 1979 first recognized the distinctiveness of *Erigeron chiangii*, but he relinquished its description to me. The type specimen he had chosen represented the element described and named here (var. *lamprocaulis*); my selection (a reselection) of the type established the concept of typical *E. chiangii*. That the two taxa were not originally distinguished taxonomically is an indication of their close similarity.

Erigeron chiangii is most closely related to *E. scoparioides* Nesom (Nesom 1989, 1992). Both species are especially unusual in the genus in their production of a rhizomatous root system without a central axis. They are further distinguished by their stems and leaves with a distinctively shiny surface texture and their narrow, entire, cauline leaves, erect buds, and strongly graduated phyllaries. *Erigeron scoparioides* is set apart in its completely eglandular vestiture of short, upwardly appressed hairs (rare or absent on the phyllaries) and its apparent complete lack of basal leaves. Although Nesom (1979, 1992) has speculated that this species pair may be related to the *E. foliosus* Nutt. group (centered primarily in California), to a strong degree they appear to be geographically and morphologically isolated from any putative relatives.

ACKNOWLEDGMENTS

I thank Dr. B.L. Turner and Mark Mayfield for their review of the manuscript.

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